DOCUMENT RESUME

ED 463 028 JC 020 255

TITLE	Student Perceptions of the Use and Educational Value of Technology at the STCC Starr County Campus: Implications for Technology Planning.
INSTITUTION	South Texas Community Coll., McAllen. Office of Institutional Research and Effectiveness.
PUB DATE	2002-00-00
NOTE	39p.
PUB TYPE	Numerical/Quantitative Data (110) -- Reports - Research (143)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Classroom Techniques; Community Colleges; *Computer Uses in Education; Educational Objectives; *Educational Technology; *Student Attitudes; Teacher Role; Two Year Colleges

ABSTRACT

This is a report on the fall 2001 student survey conducted by South Texas Community College (STCC) to measure the amount of use and perceived educational value of seven types of educational technology: (1) overhead projector; (2) television/VCR; (3) ceiling mounted data projector; (4) DVD/CD-ROM; (5) document camera; (6) smart board; and (7) computer/internet. The survey was administered to 609 students enrolled in 43 classes at two campuses of the community college. Students provided feedback on how much the technology was used in their classes and how they perceived the usefulness of the technology. Results indicated that the more students reported a technology being used, the more likely they perceived it as useful. Classes without technology were perceived as less helpful. The report suggests that research should be done to determine why some instructors do not use educational technology as frequently as others. Specific statistics and student comments are included. (MKF)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 463 028

Student Perceptions of the Use and Educational value of Technology at the STCC Starr County Campus

Implications for Technology Planning

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

G. Ortiz

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

TM029255

BEST COPY AVAILABLE

Student Perceptions of the Use and Educational Value of Technology at the STCC Starr County Campus: Implications for Technology Planning

Executive Summary

The Survey Sample and the Generalizability of the Results

During Fall Semester 2001, 609 students in 56 sections from 43 different classes at the STCC Starr County Campus and Rio Grande City High School completed a survey designed to measure the amount of use and perceived educational value of 7 types of educational technology. Usually the results of such studies, which sample only a single identifiable sub-group of a larger population, cannot be generalized to the larger group. The results from this survey, however, provide general insights that can be generalized to all STCC sites.

Five Generalizable Results

The results of this study point to four results that can be generalized to other sites at STCC.

1. **The more often students believe a given piece of equipment is used, the more they believe it helps them learn – even if the piece of equipment was not used.**
2. **Students' perception of the helpfulness of technology tends to be global; the more a student believes one piece of equipment helps in learning, the more he is apt to believe other types of equipment help.**
3. **Use of technology among different programs is too varied to provide any "overall" guidance about technology purchases.**
4. **Students in class settings that lack the educational technology available elsewhere feel they are not getting as good an education as students in classrooms that have the technology.**
5. **The low frequency of use reported for some equipment indicates the need for a study to determine what factors affect instructor use of available technology. Such a study could help in designing more effective professional development workshops.**

Further research on the educational value of technology

The results of this study do not address the question of whether the use of educational technology objectively affects student learning. In fact, the results only point to the difficulty of attempting to determine technology's effect on educational outcomes. Even setting aside the difficulty in measuring effect, such an undertaking would be prohibitively expensive, intrusive and time consuming.

The most cost effective approach to future research in this area is simply to expand the sample to include a broader spectrum of STCC students, and include an instructor survey to gather more accurate use data. Such a survey could be conducted every two years to track changes in student perception of the value of educational technology.

TC02355

Student Perceptions of the Use and Educational Value of Technology at the STCC Starr County Campus: Implications for Technology Planning

The Survey Sample and the Generalizability of the Results

During Fall Semester 2001, 609 students in 56 sections from 43 different classes at the STCC Starr County Campus and Rio Grande City High School completed a survey designed to measure the amount of use and perceived educational value of 7 types of educational technology. Usually the results of such studies, which sample only a single group from a larger population, cannot be generalized to the larger group. The results from this survey, however, provide general insights that can be generalized to all STCC sites.

Results
(See the Appendix for Tables 6 through 22)

Technology Use

On the Assessment form equipment use was broken into 5 possible categories: A. Never, B. 1 to 25%, C. 26 to 50%, D. 51 to 75%, and F. 76 to 100%. To clarify the results, these categories were reduced to: Never, Low Use (1 to 50%), and High Use (51 to 100%). The left-hand side of Tables 16 through 12 shows the level of use for the seven types of equipment contained in this study broken down by program. The left side of Table 13 shows the combined results for each type of equipment.

Since this sample is not representative of all the classes conducted at the Starr County Campus (for example 16 sections of English were sampled but only one section of history), these results should not be used as an indicator of the need for any of the items of equipment. For example, the DVD ROM shows the least use (21% for high and low use combined); however, this may be an effect of inadvertently not sampling the classes in which the DVD ROM is used more often.

What the results for the level of use question do reliably show, is that equipment use varies widely between programs and even between classes. Table 1, below, shows the use of the Ceiling Mounted Data Projector, the Television/VCR, and the Smart Board for four different sections of English 1301, and of the Overhead Projector and Instructor's Computer for two sections of Government 2302 (all sections were taught by different instructors).

Although some measurement error is shown, in that all of the students do not report the same amount of use for the equipment, this table clearly shows that equipment use varies between sections of the same class. For example, it is apparent that the instructor for the section labeled ENGL1301B used the data projector and the smart board more often than did the instructors in the other sections. The instructor for section ENGL1301C used none of the equipment. Similarly, the instructor for Government 2302A made more use of the

overhead projector and the instructor's computer than did the instructor for the other section.

Table 1: Example of Varied Equipment Use in the Same Course

	Never	Low Use	High Use
Ceiling Mounted Data Projector			
ENGL1301A*	3	5	1
ENGL1301B			12
ENGL1301C	9		
ENGL1301D	6	1	
Television/VCR			
ENGL1301A		7	3
ENGL1301B		12	
ENGL1301C	9		
ENGL1301D		7	1
Smart Board			
ENGL1301A	8		1
ENGL1301B			12
ENGL1301C	8	1	
ENGL1301D	6		2
Overhead Projector			
GOVT2302A		2	12
GOVT2302B	12	2	1
Instructor's Computer with Network and Internet Access			
GOVT2302A	2	4	8
GOVT2302B	7	4	4

*Letters have been substituted for section identifiers to preserve instructor confidentiality

It would have been informative to have the instructor's report of how much the various items of equipment were used in each class section to compare with the student's report of equipment use and educational value, and this information should be collected if this study is repeated. Lacking this it is still clear that the availability of various kinds of educational technology provides the instructors with a range of options which each uses differently -- according to their own strengths, insight and training -- to achieve the desired outcomes for the class.

Perceived Educational Value of Technology

On the assessment form, students were asked to rate how much the equipment used in each class helped them learn the course material using four categories: A. Helped A Lot, B. Helped A Little, C. Made No Difference, and D. Made Learning More Difficult. The right-hand side of Tables 6 through 12 shows the level of use for the seven types of equipment contained in this study broken down by program. The right-hand side of Table 13 shows the combined results for each type of equipment. Students were asked to rate

only those items that were used in the course; therefore, only responses from students who indicated that an item of was used were included in the results.
Overwhelmingly these results show that students believe the use of technology helps them learn. Although the results vary depending on department and item of equipment, the overwhelming majority of students believe the equipment helps. Table 2, below shows the percentage of students who rated an item of equipment as helping either "A Little" or "A Lot." This figure ranges from a low of 83% to a high of 92%.

Table 2: Equipment Helpfulness Total Percentages by Item

Equipment	Helped A Little %	Helped A Lot %	Combined %	Total Count
Overhead Projector	22%	66%	88%	308
Television/VCR	35%	50%	86%	322
Ceiling Mounted Data Projector	18%	74%	92%	400
DVD ROM	20%	63%	83%	109
Document Cam/Video Presenter/Elmo	27%	58%	85%	211
Smart Board	20%	72%	92%	313
Instructor's computer with network and Internet Access	22%	68%	90%	364

The results also indicate that the more an item was believed to be used, the more helpful it was believed to be. Table 3, below, shows a correlation matrix for Equipment Use and Perceived Educational Value. A review of this shows a statistically significant ($p = .01$) moderate, positive relationship between the amount of use for an item and its educational value. For each piece of equipment this was the largest, and in many cases the only, significant correlation.

Table 3. Correlation of Number of Class Sessions in which Item Was Used with How Helpful the Item Was Felt To Be

	How Helpful the Item Was Felt To Be						
Number of Class Sessions in which Item Was Used	1. Overhead Projector	2. TV/ VCR	3. Data Projector	4. DVD ROM	5. Elmo	6. Smart Board	7. Inst. computer
1. Overhead Projector	**.347****	.071	.053	.148	.152	.091	.025
2. Television/VCR	.068	**.254****	-.023	-.026	.1	.007	.124
3. Ceiling Mounted Data Projector	-.01	-.047	**.374****	.119	.106	.252**	.175**
4. DVD ROM	.103	.191**	.140**	**.353****	.228**	.125	.184**
5. Document Cam/Elmo	.076	.159**	.153**	0.22	**.413****	.157**	.195**
6. Smart Board	.078	-.071	.206**	0.146	.178	**.448****	.083
7. Instructor's computer/network and Internet Access	.027	-.09	.076	0.079	.121	.14	**.320****

Pearson Correlation Coefficients
**Correlation is significant at the 0.01 level 2-tailed.

The general finding, that students believe the use of educational technology helps learning and the more it is used the more it helps, appears to hold even if the technology was in fact probably not used. Seeing this effect requires a close examination of Tables 14 through 20, which list use and educational value scores by section (section identifiers have been replaced with letters to preserve instructor confidentia lity). Table 4 below shows the very illustrative results for all sections of Computer Science 1301. For all sections, the overwhelming majority of students reported no use of the DVD ROM (indicating that this device was not used). However, those students who believed the device was used believed it helped learning, and – in general – the more they believed it was used the more they believed it helped. Evidence of this belief that the more a piece of equipment was used the more it helped learning is also found in Table 21, which details total "How Helpful" responses broken down by amount of use.

Table 4: DVD ROM Use and Help

	How Much DVD ROM Helped Student Learning			
Approximate Percentage of Class Sessions DVD ROM Was Used.	**Made no Difference**	**Helped A Little**	**Helped A Lot**	**Total**
Never				71
1% to 25%	2	1	2	5
26% to 50%		1	1	2
51% to 75%	1	2		3
76% to 100%			5	5
Total	3	4	8	86

Students also tend to view educational technology in global terms; that is, the more they think use of one piece of equipment helps the more apt they are to think another piece of equipment helps. Table 5, Below, show the Correlation Coefficients for any two pieces of equipment.

Table 5: Correlation of How Helpful an Item Was Felt To Be with How Helpful Other Items Were Felt To Be

	How helpful the item was felt to be						
How helpful the item was felt to be	1. Overhead Projector	2. TV/ VCR	3. Data Projector	4. DVD ROM	5. Elmo	6. Smart Board	7. Inst. computer
1. Overhead Projector	1	.435**	.429**	.396**	.346**	.358**	.363**
2. Television/VCR	.435**	1	.173	.334**	.366**	.173	.203**
3. Ceiling Mounted Data Projector	.429**	.173	1	.425**	.474**	.514**	.512**
4. DVD ROM	.396**	.334**	.425**	1	.593**	.509**	.527**
5. Document Cam/Elmo	.346**	.366**	.474**	.593**	1	.578**	.539**
6. Smart Board	.358**	.173	.514**	.509**	.578**	1	.539**
7. Instructor's computer/network and Internet Access	.363**	.203**	.512**	.527**	.539**	.539**	1

Pearson Correlation Coefficients

**Correlation is significant at the 0.01 level 2-tailed.

The high correlations in Table 5 probably also indicate some tendency for some students to simply mark the same response for multiple items of equipment. However, considering the highly varied correlations seen between use and equipment types in Table 3, it is not likely that a tendency to indiscriminately mark the same response for multiple items explains very much of the correlation seen in Table 5. This interpretation is further supported by the students' written comments, which also show a tendency for students to take a global view of the usefulness of educational Technology.

Of the 30 student comments concerning the educational value of equipment in the classroom, only 8 mentioned a specific piece of equipment (5 negatively, 3 positively). The remaining 22 comments (1 negative, 21 positive) spoke of technology in global terms.

The students' comments also show that they want educational technology available and feel frustrated when it is not available. This survey was distributed to 3 sections of College Success which were taught at Rio Grande City High School, and this generated 38 comments similar to the following (A complete list of student comments is available as table 22 in the appendix):

> Equipment not in classroom. I feel that I am being cheated out of my money, because the campus that I'm at does not have the equipment needed to successfully complete my course. I feel that other classes received more for their tuition.

Four Generalizable Results

The results of this study point to four results that can be generalized to other sites at STCC.

1. **The more often students believe a given piece of equipment is used, the more they believe it helps them learn – even if the piece of equipment was not used.**

2. **Students' perception of the helpfulness of technology tends to be global; the more a student believes one piece of equipment helps in learning, the more he is apt to believe other types of equipment help.**

3. **Use of technology among different programs is too varied to provide any "overall" guidance about technology purchases.**

4. **Students in class settings that lack the educational technology available elsewhere feel they are not getting as good an education as students in classrooms that have the technology.**

Further research on the educational value of technology

A fifth general finding can be added to the list above:

5. The low frequency of use reported for some equipment indicates the need for a study to determine what factors affect instructor use of available technology. Such a study could help in designing more effective professional development workshops.

Due to the limited sample included in this study, most generalizations about equipment use must be avoided. However, the low frequency of use for some of the equipment included in this study points to the urgent need for research that focuses on instructors' knowledge of and attitudes toward available technology.

Such a research study would attempt to move beyond the question of how often the instructor uses a piece of equipment. It would need to explore how competent the instructor felt in using the equipment, how useful he felt the equipment could be, and whether he saw unique advantages in using the equipment. This study could then be used to design professional development workshops that would truly help optimize equipment use.

The study proposed above would be separate from any study that attempts to expand the current study and correct its two major weaknesses: 1, the lack of instructor rating for equipment use and educational value, and the lack of a representative random sample.

One of the weaknesses of the current study was a lack of more objective information on the actual use of technology in the classroom. The results of this study indicate that many students do not know what piece of equipment is being used, let alone whether there are any necessary interconnections in equipment use. Ideally an outside observer would provide this information, but that is difficult to arrange and expensive. Gathering information on amount of equipment use from the instructors would be an acceptable substitute to the use of an outside observer and should be used in any future study. It would be simple for each instructor to complete an instructors' survey, identical to the one completed by their students, for every surveyed class.

Additionally, the sample included in this study was not sufficiently broad, random, or representative to allow some potential findings to be generalized beyond the sample. The limitations this imposes on the ability to generalize from the results regarding the use of equipment was discussed in the *Technology Use* section, pages 1 and 2 above, and clearly point to the need for a more carefully selected sample for any future repetition of this study.

It is also important to note that the results of this study do not address the question of whether the use of educational technology objectively affects student learning. In fact, the results only point to the difficulty of attempting to determine technology's effect on educational outcomes.

Student responses to the question of how often a given piece of equipment was used during a semester show that when the equipment is available there is great variation in equipment use between different programs and that this same variation exists between

instructors within a program. Therefore, even setting aside the difficulty in measuring effect, one cannot ask globally, "Is technology useful?" Instead, one must ask, "is this piece of equipment useful in this course (and perhaps with this instructor in this course?)"

If one wished to undertake the daunting task of conducting such research, one would have to begin by identifying control classes (those where the technology was not available or not used) and interviewing the instructors to determine whether they are using any strategies to overcome the lack of educational technology. Then, if a common assessment was used by both groups, one could reasonably compare outcomes. Such research, would be time consuming and, given the students' belief in the value of educational technology as shown in this study, probably futile. To keep our students satisfied and attract future students, we must provide up-to-date educational technology.

The most cost effective approach to future research in this area is simply to expand the sample to include a broader spectrum of STCC students, and include an identical instructor survey to gather more accurate use data. Such a survey could be conducted every two years to track changes in student perception of the value of educational technology.

Appendix
Detailed Tables

1. Table 6 Use and Helpfulness of Overhead Projector by Department
2. Table 7 Use and Helpfulness of Television/VCR by Department
3. Table 8 Use and Helpfulness of Ceiling Mounted Data Projector by Department
4. Table 9 Use and Helpfulness of DVD ROM by Department
5. Table 10 Use and Helpfulness of Document Camera/Video Presenter/Elmo by Department
6. Table 11 Use and Helpfulness of Smart Board by Department
7. Table 12 Use and Helpfulness of Instructor's Computer with Network and Internet Access by Department
8. Table 13 Use and Helpfulness of Technology – Totals by Department
9. Table 14 Use and Helpfulness of Overhead Projector by Class Section
10. Table 15 Use and Helpfulness of Television/VCR by Class Section
11. Table 16 Use and Helpfulness of Ceiling Mounted Data Projector by Class Section
12. Table 17 Use and Helpfulness of DVD ROM by Class Section
13. Table 18 Use and Helpfulness of Document Camera/Video Presenter/Elmo by Class Section
14. Table 19 Use and Helpfulness of Smart Board by Class Section
15. Table 20 Use and Helpfulness of Instructor's Computer with Network and Internet Access by Class Section
16. Table 21 Overall Technology Helpfulness by Percentage of Use
17. Table 22 Student Comments Transcribed Verbatim

Table 6: Use and Helpfulness of Overhead Projector by Department

	Never Used		Low Use		High Use		Use Total	Made Learning More Difficult		Made No Difference		Helped A Little		Helped A Lot		Total
	Count	%	Count	%	Count	%	Count	Count	%	Count	%	Count	%	Count	%	Count
Biology	1	3%	7	22%	24	75%	32			2	7%	6	21%	21	72%	29
Business Management	2	40%	2	40%	1	20%	5					1	50%	1	50%	2
Business	5	45%	3	27%	3	27%	11			2	33%			4	67%	6
Computer Science	62	69%	11	12%	17	19%	90			4	17%	5	21%	15	63%	24
Criminal Justice	6	50%	3	25%	3	25%	12					2	40%	3	60%	5
Drug and Alcohol Counseling	2	29%	2	29%	3	43%	7			1	25%	3	75%			4
Education	7	70%	2	20%	1	10%	10							3	100%	3
English	46	45%	21	20%	36	35%	103			10	18%	10	18%	37	65%	57
Government	13	25%	12	23%	28	53%	53			3	8%	11	28%	25	64%	39
History	1	8%	8	67%	3	25%	12					4	40%	6	60%	10
Human Resources	5	83%	1	17%			6			1	100%					1
Business Computer Systems	19	79%	2	8%	3	13%	24	1	20%	1	20%	2	40%	1	20%	5
Math	47	81%	4	7%	7	12%	58			3	27%	3	27%	5	45%	11
College Success	10	16%	24	39%	27	44%	61	1	2%	5	10%	8	16%	35	71%	49
Philosophy	19	66%	5	17%	5	17%	29			1	10%	3	30%	6	60%	10
Professional Office Technology	10	71%			4	29%	14							4	100%	4
Reading	4	17%	3	13%	17	71%	24			1	5%	3	15%	16	80%	20
Social Work					7	100%	7					1	14%	6	86%	7
Spanish	12	44%	6	22%	9	33%	27					6	40%	9	60%	15
Not Given	3	30%	1	10%	6	60%	10					1	14%	6	86%	7
Total	274	46%	117	20%	204	34%	595	2	1%	34	11%	69	22%	203	66%	308

Table 7: Use and Helpfulness of Television/VCR by Department

	Never Used		Low Use		High Use		Use Total	Made Learning More Difficult		Made No Difference		Helped A Little		Helped A Lot		Total
	Count	%	Count	%	Count	%	Count	Count	%	Count	%	Count	%	Count	%	Count
Biology	10	31%	20	63%	2	6%	32	1	5%	1	5%	12	60%	6	30%	20
Business Management	4	80%			1	20%	5							1	100%	1
Business	2	18%	6	55%	3	27%	11			1	11%	4	44%	4	44%	9
Computer Science	55	67%	22	27%	5	6%	82			7	30%	10	43%	6	26%	23
Criminal Justice	6	50%	5	42%	1	8%	12					1	20%	4	80%	5
Drug and Alcohol Counseling			7	100%			7	2	33%			1	17%	3	50%	6
Education	8	80%	2	20%			10					1	100%			1
English	52	51%	35	34%	15	15%	102			5	11%	15	33%	25	56%	45
Government	1	2%	36	68%	16	30%	53	1	2%	5	10%	22	43%	23	45%	51
History			9	75%	3	25%	12			1	9%	3	27%	7	64%	11
Human Resources			5	83%	1	17%	6					2	33%	4	67%	6
Business Computer Systems	17	74%	5	22%	1	4%	23			3	50%	1	17%	2	33%	6
Math	45	78%	11	19%	2	3%	58			3	25%	4	33%	5	42%	12
College Success	1	2%	44	72%	16	26%	61			5	9%	16	28%	37	64%	58
Philosophy			25	89%	3	11%	28			4	14%	10	36%	14	50%	28
Professional Office Technology	14	88%			2	13%	16							2	100%	2
Reading	7	28%	9	36%	9	36%	25			3	20%	2	13%	10	67%	15
Social Work	5	56%	1	11%	3	33%	9			1	25%	1	25%	2	50%	4
Spanish	11	39%	12	43%	5	18%	28	1	7%	2	13%	6	40%	6	40%	15
Not Given	5	56%	4	44%			9					3	75%	1	25%	4
Total	243	41%	258	44%	88	15%	589	5	2%	41	13%	114	35%	162	50%	322

Table 8: Use and Helpfulness of Ceiling Mounted Data Projector by Department

	Never Used		Low Use		High Use		Use Total	Made Learning More Difficult		Made No Difference		Helped A Little		Helped A Lot		Total
	Count	%	Count	%	Count	%	Count	Count	%	Count	%	Count	%	Count	%	Count
Biology	15	47%	11	34%	6	19%	32					6	40%	9	60%	15
Business Management	1	20%	1	20%	3	60%	5					1	25%	3	75%	4
Business	1	10%	1	10%	8	80%	10			1	11%	1	11%	7	78%	9
Computer Science	3	3%	9	10%	78	87%	90			2	3%	8	11%	64	86%	74
Criminal Justice	1	8%			11	92%	12					1	11%	8	89%	9
Drug and Alcohol Counseling	4	57%	2	29%	1	14%	7	1	33%					2	67%	3
Education	1	10%	5	50%	4	40%	10					2	25%	6	75%	8
English	24	24%	17	17%	58	59%	99			10	14%	12	16%	52	70%	74
Government	16	32%	15	30%	19	38%	50			3	9%	12	36%	18	55%	33
History	5	42%	3	25%	4	33%	12					2	29%	5	71%	7
Human Resources	2	33%	4	67%			6			2	50%	1	25%	1	25%	4
Business Computer Systems	4	16%	5	20%	16	64%	25	1	5%	4	19%	2	10%	14	67%	21
Math	21	37%	8	14%	28	49%	57	1	3%	3	9%	8	23%	23	66%	35
College Success	32	63%	5	10%	14	27%	51					2	11%	16	89%	18
Philosophy			17	63%	10	37%	27					6	23%	20	77%	26
Professional Office Technology	10	71%			4	29%	14							4	100%	4
Reading	1	4%	3	12%	22	85%	26					1	4%	24	96%	25
Social Work			4	57%	3	43%	7					1	20%	4	80%	5
Spanish	6	21%	11	39%	11	39%	28	1	5%	3	14%	5	24%	12	57%	21
Not Given	4	40%	1	10%	5	50%	10					2	40%	3	60%	5
Total	151	26%	122	21%	305	53%	578	4	1%	28	7%	73	18%	295	74%	400

Table 9: Use and Helpfulness of DVD ROM by Department

	Never Used		Low Use		High Use		Use Total	Made Learning More Difficult		Made No Difference		Helped A Little		Helped A Lot		Total
	Count	%	Count	%	Count	%	Count	Count	%	Count	%	Count	%	Count	%	Count
Biology	30	94%	1	3%	1	3%	32							2	100%	2
Business Management	4	80%	1	20%			5									0
Business	6	55%	3	27%	2	18%	11					1	20%	4	80%	5
Computer Science	71	82%	7	8%	9	10%	87			3	20%	4	27%	8	53%	15
Criminal Justice	4	33%	5	42%	3	25%	12			1	14%			6	86%	7
Drug and Alcohol Counseling	7	100%					7									0
Education	7	70%	2	20%	1	10%	10							1	100%	1
English	83	85%	7	7%	8	8%	98			4	27%	2	13%	9	60%	15
Government	43	83%	6	12%	3	6%	52			2	22%	5	56%	2	22%	9
History	10	83%	1	8%	1	8%	12	1	50%	1	50%					2
Human Resources	6	100%					6									0
Business Computer Systems	18	82%	2	9%	2	9%	22							4	100%	4
Math	49	84%	6	10%	3	5%	58			1	11%	4	44%	4	44%	9
College Success	45	90%	5	10%			50			3	60%	2	40%			5
Philosophy	22	76%	6	21%	1	3%	29					1	17%	5	83%	6
Professional Office Technology	13	81%			3	19%	16							2	100%	2
Reading	11	44%	4	16%	10	40%	25					1	7%	13	93%	14
Social Work	6	67%	1	11%	2	22%	9							2	100%	2
Spanish	18	62%	4	14%	7	24%	29			2	20%	2	20%	6	60%	10
Not Given	8	80%	1	10%	1	10%	10							1	100%	1
Total	461	79%	62	11%	57	10%	580	1	1%	17	16%	22	20%	69	63%	109

Table 10: Use and Helpfulness of Document Camera/Video Presenter/Elmo by Department

	Never Used		Low Use		High Use		Use Total	Made Learning More Difficult		Made No Difference		Helped A Little		Helped A Lot		Total
	Count	%	Count	%	Count	%	Count	Count	%	Count	%	Count	%	Count	%	Count
Biology	27	84%	3	9%	2	6%	32					3	60%	2	40%	5
Business Management	4	80%	1	20%			5									0
Business	5	45%	4	36%	2	18%	11			2	40%	1	20%	2	40%	5
Computer Science	60	67%	17	19%	12	13%	89			2	7%	9	33%	16	59%	27
Criminal Justice	2	17%	5	42%	5	42%	12					1	11%	8	89%	9
Drug and Alcohol Counseling	5	71%	2	29%			7					2	100%			2
Education	8	80%	2	20%			10					1	100%			1
English	59	63%	19	20%	15	16%	93			7	21%	7	21%	19	58%	33
Government	34	64%	12	23%	7	13%	53			5	26%	7	37%	7	37%	19
History	5	42%	6	50%	1	8%	12			3	50%	1	17%	2	33%	6
Human Resources	5	83%	1	17%			6							1	100%	1
Business Computer Systems	15	65%	3	13%	5	22%	23					1	13%	7	88%	8
Math	35	63%	11	20%	10	18%	56	1	5%	4	19%	9	43%	7	33%	21
College Success	33	66%	11	22%	6	12%	50			1	6%	1	6%	14	88%	16
Philosophy	14	48%	10	34%	5	17%	29			1	7%	7	50%	6	43%	14
Professional Office Technology	12	75%			4	25%	16							4	100%	4
Reading	5	21%	4	17%	15	63%	24					2	12%	15	88%	17
Social Work	5	56%	1	11%	3	33%	9							3	100%	3
Spanish	12	43%	10	36%	6	21%	28			2	13%	4	27%	9	60%	15
Not Given	5	50%	4	40%	1	10%	10			3	60%	1	20%	1	20%	5
Total	350	61%	126	22%	99	17%	575	1	0%	30	14%	57	27%	123	58%	211

Table 11: Use and Helpfulness of Smart Board by Department

	Never Used		Low Use		High Use		Use Total	Made Learning More Difficult		Made No Difference		Helped A Little		Helped A Lot		Total
	Count	%	Count	%	Count	%	Count	Count	%	Count	%	Count	%	Count	%	Count
Biology	29	91%	2	6%	1	3%	32					2	100%			2
Business Management	4	80%			1	20%	5							1	100%	1
Business	6	55%	1	9%	4	36%	11							5	100%	5
Computer Science	5	6%	13	14%	72	80%	90			1	1%	9	12%	65	87%	75
Criminal Justice	2	17%			10	83%	12							8	100%	8
Drug and Alcohol Counseling	6	86%	1	14%			7	1	100%							1
Education	3	30%	2	20%	5	50%	10					2	33%	4	67%	6
English	47	48%	14	14%	37	38%	98	2	4%	5	10%	8	16%	36	71%	51
Government	20	38%	9	17%	24	45%	53			2	6%	6	18%	25	76%	33
History	6	50%	3	25%	3	25%	12			1	17%	1	17%	4	67%	6
Human Resources	6	100%					6									0
Business Computer Systems	1	4%	6	25%	17	71%	24			3	13%	3	13%	17	74%	23
Math	28	49%	17	30%	12	21%	57			4	14%	14	50%	10	36%	28
College Success	33	94%	1	3%	1	3%	35							1	100%	1
Philosophy	3	10%	19	66%	7	24%	29	1	4%	2	8%	7	28%	15	60%	25
Professional Office Technology	13	87%			2	13%	15							1	100%	1
Reading	5	20%	4	16%	16	64%	25					3	15%	17	85%	20
Social Work	2	22%	5	56%	2	22%	9					1	25%	3	75%	4
Spanish	9	31%	8	28%	12	41%	29			3	16%	5	26%	11	58%	19
Not Given	5	56%	2	22%	2	22%	9					2	50%	2	50%	4
Total	233	41%	107	19%	228	40%	568	4	1%	21	7%	63	20%	225	72%	313

Table 12: Use and Helpfulness of Instructor's Computer with Network and Internet Access by Department

	Never Used		Low Use		High Use		Use Total	Made Learning More Difficult		Made No Difference		Helped A Little		Helped A Lot		Total
	Count	%	Count	%	Count	%	Count	Count	%	Count	%	Count	%	Count	%	Count
Biology	18	56%	5	16%	9	28%	32			1	8%	4	31%	8	62%	13
Business Management			1	20%	4	80%	5					1	20%	4	80%	5
Business			3	27%	8	73%	11					2	18%	9	82%	11
Computer Science	5	6%	16	18%	69	77%	90			3	4%	13	18%	58	78%	74
Criminal Justice	1	8%	1	8%	10	83%	12							9	100%	9
Drug and Alcohol Counseling	2	29%	3	43%	2	29%	7					1	25%	3	75%	4
Education	6	60%	2	20%	2	20%	10							2	100%	2
English	54	53%	21	21%	27	26%	102			5	11%	19	43%	20	45%	44
Government	9	17%	17	32%	27	51%	53	1	2%	3	7%	12	28%	27	63%	43
History	6	50%	5	42%	1	8%	12			2	33%			4	67%	6
Human Resources	3	50%	2	33%	1	17%	6					2	67%	1	33%	3
Business Computer Systems	2	8%	5	20%	18	72%	25	1	4%	6	26%			16	70%	23
Math	21	36%	11	19%	26	45%	58	2	6%	3	8%	12	33%	19	53%	36
College Success	31	65%	9	19%	8	17%	48			1	6%	4	24%	12	71%	17
Philosophy	11	38%	10	34%	8	28%	29			2	11%	3	17%	13	72%	18
Professional Office Technology	11	69%			5	31%	16	1	20%					4	80%	5
Reading	5	20%	4	16%	16	64%	25					2	10%	18	90%	20
Social Work	3	33%	2	22%	4	44%	9			1	20%	1	20%	3	60%	5
Spanish	9	33%	6	22%	12	44%	27			2	11%	4	22%	12	67%	18
Not Given	2	20%	2	20%	6	60%	10	1	13%	1	13%	1	13%	5	63%	8
Total	199	34%	125	21%	263	45%	587	6	2%	30	8%	81	22%	247	68%	364

Table 13. Use and Helpfulness of Technology -- Totals by Item

Equipment	Never Used		Low Use		High Use		Use Total	Made Learning More Difficult		Made No Difference		Helped A Little		Helped A Lot		Total
	Count	%	Count	%	Count	%	Count	Count	%	Count	%	Count	%	Count	%	Count
Overhead Projector	274	46%	117	20%	204	34%	595	2	1%	34	11%	69	22%	203	66%	308
Television/VCR	243	41%	258	44%	88	15%	589	5	2%	41	13%	114	35%	162	50%	322
Ceiling Mounted Data Projector	151	26%	122	21%	305	53%	578	4	1%	28	7%	73	18%	295	74%	400
DVD ROM	461	79%	62	11%	57	10%	580	1	1%	17	16%	22	20%	69	63%	109
Document Cam/Video Presenter/Elmo	350	61%	126	22%	99	17%	575	1	0%	30	14%	57	27%	123	58%	211
Smart Board	233	41%	107	19%	228	40%	568	4	1%	21	7%	63	20%	225	72%	313
Instructor's computer with network and Internet Access	199	34%	125	21%	263	45%	587	6	2%	30	8%	81	22%	247	68%	364

Table 14: Use and Helpfulness of Overhead Projector by Class Section

	Never Count	Low Use Count	High Use Count	Total Minus Never Count	Made More Difficult Count	Made No Difference Count	Helped A Little Count	Helped A Lot Count	Total Helped Count	% of Used Believed to Help
BIOL1409A	1	1	8	9			1	7	8	89%
BIOL1409B		1	3	4				4	4	100%
BIOL2401A		4	10	14		2	4	7	11	79%
BIOL2421A		1	3	4			1	3	4	100%
BMGT1301A	2	2	1	3			1	1	2	67%
BUSI1301A	4	2	1	3				3	3	100%
BUSI1301B	1	1	2	3		2		1	1	33%
COSC1301A	6		3	3				3	3	100%
COSC1301B	7	1		1		1			0	0%
COSC1301C	8		3	3		1		1	1	33%
COSC1301D	17	6	1	7		1	1	2	3	43%
COSC1301E	13	4	3	7		1	3	3	6	86%
COSC1301F	11		7	7			1	6	7	100%
CRIJ1307A	6	3	3	6			2	3	5	83%
DAAC1319A	2	2	3	5		1	3		3	60%
EDUC1301A	7	2	1	3				3	3	100%
ENGL0071A	1	1	3	4				4	4	100%
ENGL0071B			4	4				4	4	100%
ENGL0071C		3	6	9		2	2	5	7	78%
ENGL0081A		2	4	6		1	1	4	5	83%
ENGL0081B	1	2	6	8		2		6	6	75%
ENGL0081C	1	1	4	5		1	1	3	4	80%
ENGL0091A		2	2	4			1	3	4	100%
ENGL0091B		1	3	4				4	4	100%
ENGL1301A	11	1		1			1		1	100%
ENGL1301A	6	1	1	2				2	2	100%
ENGL1301B	5	3	3	6		3	2	1	3	50%
ENGL1301C	9			0					0	
ENGL2326A	1	4		4		1	2	1	3	75%
ENGL2341A	4		1	1				1	1	100%
ENGL2341B	7			0					0	
GOVT2301A		3	2	5			4	1	5	100%
GOVT2301B	1	3	4	7		1	3	3	6	86%
GOVT2301C		2	9	11		1	2	8	10	91%
GOVT2302A		2	12	14		1		12	12	86%
GOVT2302B	12	2	1	3			2	1	3	100%
HIST1301A	1	8	3	11			4	6	10	91%
HRPO1311A	5	1		1		1			0	0%
ITSC1309A	11			0					0	
ITSW1301A	5	1	1	2			1	1	2	100%
ITSW1307A	3	1	2	3	1	1	1		1	33%
MATH0080A	14	1	2	3			2	1	3	100%
MATH0090A	14		2	2		1	1		1	50%
MATH1414A	21	3	3	6		2		4	4	67%
ORIN0101A		9	7	16		2	2	11	13	81%
ORIN0101B		4	8	12		1	2	8	10	83%
ORIN0101C	10	5	1	6		2	2	2	4	67%
ORIN0101D		6	10	16	1		2	13	15	94%
PHIL2303A	19	5	5	10		1	3	6	9	90%
POFT1302A	10		4	4				4	4	100%
READ0000A	3	2	10	12		1	1	10	11	92%
READ0000B	1	1	7	8			2	6	8	100%
SCWK1371A			7	7			1	6	7	100%
SPAN2313A	3	5	4	9			5	4	9	100%
SPAN2313B	5	1		1			1		1	100%

BEST COPY AVAILABLE

Table 15: Use and Helpfulness of Television/VCR by Class Section

	Never Count	Low Use Count	High Use Count	Total Minus Never Count	Made More Difficult Count	Made No Difference Count	Helped A Little Count	Helped A Lot Count	Total Helped Count	% of Used Believed to Help
BIOL1409A	3	5	2	7	1		4	1	5	71%
BIOL1409B		4		4		1	2	1	3	75%
BIOL2401A	7	7		7			4	2	6	86%
BIOL2421A		4		4			2	2	4	100%
BMGT1301A	4		1	1				1	1	100%
BUSI1301A		6	1	7			4	3	7	100%
BUSI1301B	2		2	2		1		1	1	50%
COSC1301A	8		1	1			1		1	100%
COSC1301B	8			0					0	
COSC1301C	11			0					0	
COSC1301D	5	18		18		6	6	2	8	44%
COSC1301E	7	4	2	6		1	2	3	5	83%
COSC1301F	16		2	2			1	1	2	100%
CRIJ1307A	6	5	1	6			1	4	5	83%
DAAC1319A		7		7	2		1	3	4	57%
EDUC1301A	8	2		2			1		1	50%
ENGL0071A	5			0					0	
ENGL0071B	4			0					0	
ENGL0071C	5	2	2	4			2	2	4	100%
ENGL0081A	5		1	1				1	1	100%
ENGL0081B	9			0					0	
ENGL0081C	6			0					0	
ENGL0091A	3		1	1				1	1	100%
ENGL0091B	4			0					0	
ENGL1301A		12		12		1	6	5	11	92%
ENGL1301A		7	1	8		1	1	5	6	75%
ENGL1301B		7	3	10			4	5	9	90%
ENGL1301C	9			0					0	
ENGL2326A			5	5		1	1	3	4	80%
ENGL2341A	2	2	1	3		1		1	1	33%
ENGL2341B		6	1	7		1	2	2	4	57%
GOVT2301A		5		5		3	2		2	40%
GOVT2301B		8		8		1	7		7	88%
GOVT2301C		7	4	11	1	1	7	2	9	82%
GOVT2302A	1	9	4	13			5	7	12	92%
GOVT2302B		7	8	15			1	14	15	100%
HIST1301A		9	3	12		1	3	7	10	83%
HRPO1311A		5	1	6			2	4	6	100%
ITSC1309A	10			0					0	
ITSW1301A	2	4	1	5		2	1	2	3	60%
ITSW1307A	5	1		1		1			0	0%
MATH0080A	16	1		1					0	0%
MATH0090A	11	4	1	5		2	1	2	3	60%
MATH1414A	20	6	1	7		1	3	3	6	86%
ORIN0101A		16		16		3	2	10	12	75%
ORIN0101B	1	7	5	12		1	2	8	10	83%
ORIN0101C		12	4	16			6	10	16	100%
ORIN0101D		8	7	15		1	5	9	14	93%
PHIL2303A		25	3	28		4	10	14	24	86%
POFT1302A	14		2	2				2	2	100%
READ0000A	6	7	3	10		2		7	7	70%
READ0000B	1	2	6	8		1	2	3	5	63%
SCWK1371A	5	1	3	4		1	1	2	3	75%
SPAN2313A	4	6	2	8		1	4	2	6	75%
SPAN2313B	2	4		4		1	1	1	2	50%
SPAN2315A	3	2	3	5	1		1	3	4	80%

BEST COPY AVAILABLE

Table 16: Use and Helpfulness of Ceiling Mounted Data Projector by Class Section

	Never Count	Low Use Count	High Use Count	Total Minus Never Count	Made More Difficult Count	Made No Difference Count	Helped A Little Count	Helped A Lot Count	Total Helped Count	% of Used Believed to Help
BIOL1409A	7	3		3			2		2	67%
BIOL1409B	4			0					0	
BIOL2401A	4	5	5	10			3	6	9	90%
BIOL2421A		3	1	4			1	3	4	100%
BMGT1301A	1	1	3	4			1	3	4	100%
BUSI1301A	1	1	5	6		1	1	4	5	83%
BUSI1301B			3	3				3	3	100%
COSC1301A	2		7	7				6	6	86%
COSC1301B	1		8	8		1		6	6	75%
COSC1301C		1	10	11				7	7	64%
COSC1301D		2	22	24		1	2	17	19	79%
COSC1301E		4	15	19			3	14	17	89%
COSC1301F		2	16	18			3	14	17	94%
CRIJ1307A	1		11	11			1	8	9	82%
DAAC1319A	4	2	1	3	1			2	2	67%
EDUC1301A	1	5	4	9			2	6	8	89%
ENGL0071A		2	3	5		1	1	3	4	80%
ENGL0071B			4	4				4	4	100%
ENGL0071C		2	7	9		2	1	6	7	78%
ENGL0081A			6	6			1	5	6	100%
ENGL0081B		1	8	9			1	8	9	100%
ENGL0081C		2	4	6		2	1	3	4	67%
ENGL0091A	1		3	3				3	3	100%
ENGL0091B			4	4				4	4	100%
ENGL1301A			12	12			1	11	12	100%
ENGL1301A	6	1		1			1		1	100%
ENGL1301B	3	5	1	6		3	2	1	3	50%
ENGL1301C	9			0					0	
ENGL2326A	2	3		3		1	2		2	67%
ENGL2341A	3	1	1	2				2	2	100%
ENGL2341B			6	6		1	1	3	4	67%
GOVT2301A	1	1	3	4			1	3	4	100%
GOVT2301B		2	6	8		1	3	4	7	88%
GOVT2301C	2		7	7		1	2	4	6	86%
GOVT2302A	9	3	2	5		1	1	2	3	60%
GOVT2302B	4	9	1	10			5	5	10	100%
HIST1301A	5	3	4	7			2	5	7	100%
HRPO1311A	2	4		4		2	1	1	2	50%
ITSC1309A		2	10	12		3		9	9	75%
ITSW1301A	2	2	3	5		1		4	4	80%
ITSW1307A	2	1	3	4	1		2	1	3	75%
MATH0080A	2	1	13	14		1	3	10	13	93%
MATH0090A		1	15	16	1	1	4	10	14	88%
MATH1414A	19	6	2	8		1	2	4	6	75%
ORIN0101A	16			0					0	
ORIN0101B	6	2		2				1	1	50%
ORIN0101C		3	13	16			2	14	16	100%
ORIN0101D	10			0					0	
PHIL2303A		17	10	27			6	20	26	96%
POFT1302A	10		4	4				4	4	100%
READ0000A		3	13	16				16	16	100%
READ0000B	1		9	9			1	8	9	100%
SCWK1371A		4	3	7			1	4	5	71%
SPAN2313A	2	5	5	10		1	2	7	9	90%
SPAN2313B	2	4		4	1	1	1		1	25%

BEST COPY AVAILABLE

Table 17: Use and Helpfulness of DVD ROM by Class Section

	Never Count	Low Use Count	High Use Count	Total Minus Never Count	Made More Difficult Count	Made No Difference Count	Helped A Little Count	Helped A Lot Count	Total Helped Count	% of Used Believed to Help
BIOL1409A	10			0					0	
BIOL1409B	4			0					0	
BIOL2401A	13		1	1				1	1	100%
BIOL2421A	3	1		1				1	1	100%
BMGT1301A	4	1		1					0	0%
BUSI1301A	3	2	2	4			1	3	4	100%
BUSI1301B	3	1		1				1	1	100%
COSC1301A	8		1	1				1	1	100%
COSC1301B	6	2		2		1	1		1	50%
COSC1301C	9		1	1					0	0%
COSC1301D	22		1	1		1			0	0%
COSC1301E	12	3	4	7		1	3	3	6	86%
COSC1301F	14	2	2	4				4	4	100%
CRIJ1307A	4	5	3	8		1		6	6	75%
DAAC1319A	7			0					0	
EDUC1301A	7	2	1	3				1	1	33%
ENGL0071A	5			0					0	
ENGL0071B	4			0					0	
ENGL0071C	7	1	1	2		1		1	1	50%
ENGL0081A	5	1		1			1		1	100%
ENGL0081B	8		1	1				1	1	100%
ENGL0081C	5			0					0	
ENGL0091A	3		1	1				1	1	100%
ENGL0091B	3		1	1				1	1	100%
ENGL1301A	11		1	1				1	1	100%
ENGL1301A	7			0					0	
ENGL1301B	6		2	2				2	2	100%
ENGL1301C	9			0					0	
ENGL2326A	1	4		4		2	1	1	2	50%
ENGL2341A	3	1	1	2		1		1	1	50%
ENGL2341B	7			0					0	
GOVT2301A	5			0					0	
GOVT2301B	6	1	1	2		1		1	1	50%
GOVT2301C	7	3		3		1	2		2	67%
GOVT2302A	10	2	2	4			3	1	4	100%
GOVT2302B	15			0					0	
HIST1301A	10	1	1	2	1	1			0	0%
HRPO1311A	6			0					0	
ITSC1309A	9		1	1				1	1	100%
ITSW1301A	3	2	1	3				3	3	100%
ITSW1307A	6			0					0	
MATH0080A	15	2		2			1	1	2	100%
MATH0090A	13	3		3		1	2		2	67%
MATH1414A	23	1	3	4			1	3	4	100%
ORIN0101A	16			0					0	
ORIN0101B	6	1		1			1		1	100%
ORIN0101C	12	4		4		3	1		1	25%
ORIN0101D	10			0					0	
PHIL2303A	22	6	1	7			1	5	6	86%
POFT1302A	13		3	3				2	2	67%
READ0000A	10	2	4	6				6	6	100%
READ0000B	1	2	6	8			1	7	8	100%
SCWK1371A	6	1	2	3				2	2	67%
SPAN2313A	6	4	3	7		2	1	3	4	57%
SPAN2313B	6			0					0	

BEST COPY AVAILABLE

Table 18: Use and Helpfulness of Document Camera/Video Presenter/Elmo by Class Section

	Never Count	Low Use Count	High Use Count	Total Minus Never Count	Made More Difficult Count	Made No Difference Count	Helped A Little Count	Helped A Lot Count	Total Helped Count	% of Used Believed to Help
BIOL1409A	9	1		1			1		1	100%
BIOL1409B	4			0					0	
BIOL2401A	10	2	2	4			2	2	4	100%
BIOL2421A	4			0					0	
BMGT1301A	4	1		1					0	0%
BUSI1301A	3	3	1	4		1	1	1	2	50%
BUSI1301B	2	1	1	2		1		1	1	50%
COSC1301A	4		5	5		1		4	4	80%
COSC1301B	8		1	1				1	1	100%
COSC1301C	11			0					0	
COSC1301D	21	1	1	2		1		1	1	50%
COSC1301E	7	11	1	12			6	5	11	92%
COSC1301F	9	5	4	9			3	5	8	89%
CRIJ1307A	2	5	5	10			1	8	9	90%
DAAC1319A	5	2		2			2		2	100%
EDUC1301A	8	2		2			1		1	50%
ENGL0071A	5			0					0	
ENGL0071B	3	1		1			1		1	100%
ENGL0071C	6	1	2	3			1	2	3	100%
ENGL0081A	3	1	2	3		1	2		2	67%
ENGL0081B	4	2	3	5		1		4	4	80%
ENGL0081C	5		1	1				1	1	100%
ENGL0091A	2		2	2				2	2	100%
ENGL0091B	2		2	2				2	2	100%
ENGL1301A	1	10	1	11		4	1	6	7	64%
ENGL1301A	6	1		1			1		1	100%
ENGL1301B	2	1	1	2			1	1	2	100%
ENGL1301C	9			0					0	
ENGL2326A	1	2	1	3		1		1	1	33%
ENGL2341A	5			0					0	
ENGL2341B	6			0					0	
GOVT2301A	3	1	1	2		1		1	1	50%
GOVT2301B		5	3	8		2	3	3	6	75%
GOVT2301C	9	2		2		1	1		1	50%
GOVT2302A	10	2	2	4		1	1	2	3	75%
GOVT2302B	12	2	1	3			2	1	3	100%
HIST1301A	5	6	1	7		3	1	2	3	43%
HRPO1311A	5	1		1				1	1	100%
ITSC1309A	7		4	4				4	4	100%
ITSW1301A	4	2	1	3			1	2	3	100%
ITSW1307A	4	1		1				1	1	100%
MATH0080A	7	6	3	9		4	3	2	5	56%
MATH0090A	7	3	5	8	1		4	3	7	88%
MATH1414A	23	2	2	4			2	2	4	100%
ORIN0101A	16			0					0	
ORIN0101B	6	1		1					0	0%
ORIN0101C		10	6	16		1	1	14	15	94%
ORIN0101D	10			0					0	
PHIL2303A	14	10	5	15		1	7	6	13	87%
POFT1302A	12		4	4				4	4	100%
READ0000A	4	2	9	11			1	9	10	91%
READ0000B	1	2	6	8			1	6	7	88%
SCWK1371A	5	1	3	4				3	3	75%
SPAN2313A	4	6	2	8		1	3	4	7	88%
SPAN2313B	2	4		4		1	1	1	2	50%

BEST COPY AVAILABLE

Table 19: Use and Helpfulness of Smart Board by Class Section

	Never Count	Low Use Count	High Use Count	Total Minus Never Count	Made More Difficult Count	Made No Difference Count	Helped A Little Count	Helped A Lot Count	Total Helped Count	% of Used Believed to Help
BIOL1409A	9	1		1					0	0%
BIOL1409B	4			0					0	
BIOL2401A	12	1	1	2			2		2	100%
BIOL2421A	4			0					0	
BMGT1301A	4		1	1				1	1	100%
BUSI1301A	3	1	3	4				4	4	100%
BUSI1301B	3		1	1				1	1	100%
COSC1301A	1	1	6	7			1	6	7	100%
COSC1301B	1	1	7	8				7	7	88%
COSC1301C		1	10	11			1	7	8	73%
COSC1301D	1	1	22	23		1	1	17	18	78%
COSC1301E	2	6	12	18			2	15	17	94%
COSC1301F		3	15	18			4	13	17	94%
CRIJ1307A	2		10	10				8	8	80%
DAAC1319A	6	1		1	1				0	0%
EDUC1301A	3	2	5	7			2	4	6	86%
ENGL0071A		3	1	4		1	1	2	3	75%
ENGL0071B	3		1	1				1	1	100%
ENGL0071C	4	2	3	5		1	1	3	4	80%
ENGL0081A	2	1	3	4				4	4	100%
ENGL0081B	2	2	5	7			1	6	7	100%
ENGL0081C	5		1	1				1	1	100%
ENGL0091A	1	2	1	3	1		1	1	2	67%
ENGL0091B	2		1	1				1	1	100%
ENGL1301A			12	12			1	11	12	100%
ENGL1301A	6		2	2		1		1	1	50%
ENGL1301B	8		1	1			1		1	100%
ENGL1301C	8	1		1		1			0	0%
ENGL2326A	4		1	1	1				0	0%
ENGL2341A	2	3		3		1	1	1	2	67%
ENGL2341B			6	6			1	5	6	100%
GOVT2301A		1	4	5			1	4	5	100%
GOVT2301B			8	8				8	8	100%
GOVT2301C		3	8	11		2	3	6	9	82%
GOVT2302A	8	3	3	6				6	6	100%
GOVT2302B	12	2	1	3			2	1	3	100%
HIST1301A	6	3	3	6		1	1	4	5	83%
HRPO1311A	6			0					0	
ITSC1309A		2	10	12		3		9	9	75%
ITSW1301A		1	6	7			1	6	7	100%
ITSW1307A	1	3	1	4			2	2	4	100%
MATH0080A	6	8	3	11		2	5	3	8	73%
MATH0090A	1	9	6	15		2	8	4	12	80%
MATH1414A	21	2	3	5			2	3	5	100%
ORIN0101A	16			0					0	
ORIN0101B	6	1		1					0	0%
ORIN0101C	1			0					0	
ORIN0101D	10			0					0	
PHIL2303A	3	19	7	26	1	2	7	15	22	85%
POFT1302A	13		2	2				1	1	50%
READ0000A	4	3	8	11			1	10	11	100%
READ0000B	1	1	8	9			2	7	9	100%
SCWK1371A	2	5	2	7			1	3	4	57%
SPAN2313A	3	4	6	10		2	3	5	8	80%
SPAN2313B	3	1	2	3			1	2	3	100%

BEST COPY AVAILABLE

Table 20: Use and Helpfulness of Instructor's Computer with Network and Internet Access by Class Section

	Never Count	Low Use Count	High Use Count	Total Minus Never Count	Made More Difficult Count	Made No Difference Count	Helped A Little Count	Helped A Lot Count	Total Helped Count	% of Used Believed to Help
BIOL1409A	3	1	6	7			2	4	6	86%
BIOL1409B	2		2	2				2	2	100%
BIOL2401A	11	2	1	3		1	1	1	2	67%
BIOL2421A	2	2		2			1	1	2	100%
BMGT1301A		1	4	5			1	4	5	100%
BUSI1301A		3	4	7			2	5	7	100%
BUSI1301B			4	4				4	4	100%
COSC1301A	1		8	8				7	7	88%
COSC1301B	1	3	5	8			1	7	8	100%
COSC1301C		7	4	11		1	4	2	6	55%
COSC1301D		3	21	24		1	1	18	19	79%
COSC1301E		2	17	19			3	14	17	89%
COSC1301F	3	1	14	15		1	4	10	14	93%
CRIJ1307A	1	1	10	11				9	9	82%
DAAC1319A	2	3	2	5			1	3	4	80%
EDUC1301A	6	2	2	4				2	2	50%
ENGL0071A	3		2	2			2		2	100%
ENGL0071B	4			0					0	
ENGL0071C	4	2	3	5			3	2	5	100%
ENGL0081A	4		2	2				2	2	100%
ENGL0081B	4	4	1	5		1	1	2	3	60%
ENGL0081C	5	1		1			1		1	100%
ENGL0091A	1	2	1	3		1	1	1	2	67%
ENGL0091B	3		1	1				1	1	100%
ENGL1301A		6	6	12			6	6	12	100%
ENGL1301A	6	1		1			1		1	100%
ENGL1301B	6	2	3	5		1	2	2	4	80%
ENGL1301C	8		1	1					0	0%
ENGL2326A	4		1	1		1			0	0%
ENGL2341A	2	2	1	3		1		2	2	67%
ENGL2341B		1	6	7			2	3	5	71%
GOVT2301A		3	2	5			4	1	5	100%
GOVT2301B		2	6	8			1	7	8	100%
GOVT2301C		4	7	11		2	4	4	8	73%
GOVT2302A	2	4	8	12			1	10	11	92%
GOVT2302B	7	4	4	8		1	2	5	7	88%
HIST1301A	6	5	1	6		2		4	4	67%
HRPO1311A	3	2	1	3			2	1	3	100%
ITSC1309A		2	10	12		3		9	9	75%
ITSW1301A	1	3	3	6		2		4	4	67%
ITSW1307A	1		5	5	1	1		3	3	60%
MATH0080A	1	7	9	16		2	6	7	13	81%
MATH0090A		1	15	16	1	1	5	9	14	88%
MATH1414A	20	3	4	7	1		2	4	6	86%
ORIN0101A	16			0					0	
ORIN0101B	6	1		1			1		1	100%
ORIN0101C		8	7	15		1	3	11	14	93%
ORIN0101D	9			0					0	
PHIL2303A	11	10	8	18		2	3	13	16	89%
POFT1302A	11		5	5	1			4	4	80%
READ0000A	5	4	7	11			1	10	11	100%
READ0000B			9	9			1	8	9	100%
SCWK1371A	3	2	4	6		1	1	3	4	67%
SPAN2313A	2	5	5	10		2	2	6	8	80%
SPAN2313B	4	1	1	2			1	1	2	100%

BEST COPY AVAILABLE

Table 21: Overall Technology Helpfulness by Percentage of Use

Approximate Number of Class Sessions in Which Item Was Used	Made Learning More Difficult		Made No Difference		Helped A Little		Helped A Lot		Total
	Count	%	Count	%	Count	%	Count	%	Count
1% to 25%	9	2%	103	19%	235	43%	202	37%	549
26% to 50%	2	1%	42	14%	98	33%	155	52%	297
51% to 75%	2	1%	20	6%	79	22%	257	72%	358
76% to 100%	10	1%	36	4%	67	8%	710	86%	823

Table 22: Student Comments Transcribed Verbatim

1. A/C in computer class never worked!
2. The air conditioning does not work and it makes learning difficult.
3. Air conditioning always malfunctions. Not really good in providing good study environment.
4. Air conditioning is not working from three weeks ago.
5. A/C needs repair.
6. The fan does not provide enough ventilation. I think we need a new air conditioning unit for next semester. Thank you.
7. The fan is a good source of air but the air conditioning is a lot more cooler.
8. The fan worked a little to calm the heat but if the air conditioner would work it would be a better environment.
9. The fan was ok for one day, but not for 3-4 weeks. The central air unit should have been fixed.
10. The fan works awesome but please fix the a/c.
11. We need a better air conditioner because the fan can't reach my computer.
12. The fan works good but the air conditioner would be much better.
13. The fan works fine but a/c would be better.
14. Please fix the air conditioner because the fan is very far from me.
15. The room is very hot!! The air system broke.
16. To add the air conditioner to the classroom because it is very hot.
17. To add air conditioners to the classes.
18. I really enjoy the fans, but prefer A/C all the time, not half of the semester.
19. The room needs air conditioning.
20. Really enjoyed the fans all semester but would prefer air conditioning.
21. The air system broke down.
22. I would have liked better if the class would have had air conditioning.
23. The air conditioner doesn't work. The class is very HOT!
24. The room needs air conditioning for the necessity of the computers.
25. The air conditioner needs to be fixed. It's very hot and hard to concentrate.
26. A/C unit needs to be repaired in order for the students to learn in a comfortable setting.
27. The a/c temperature in this class is poor. It was usually hot and stuffy. Very uncomfortable to work.
28. Air conditioner needs to be repaired because it's very hot.
29. Air conditioner needs to be repaired because it's really hot in here.
30. I liked the fan sometimes but I would rather have air conditioners. Thank you.
31. I liked the fan, but I would rather have air conditioners. Thank you.
32. The ceiling mounted data projector makes it more difficult to understand math. The chalkboard is better.
33. I don't really like the Internet with the teacher because sometimes it doesn't work well.
34. I feel if we would of used the instructor's computer Internet it would have been very confusing. I don't think I would of enjoyed it because it is very difficult when you can't connect with the Internet.
35. I believe you use too much technology which is taking the position of the teacher away. With a computer, I'd have to understand the computer first then the lecture. If I wanted that I'd take only internet courses.
36. I really learned a lot from this class. It really helped me understand more about computers.
37. I had a great professor for this class.
38. The class was very good. I learned quite a bit.
39. I think it is very good that we have a data projector because it helps us give a presentation and better inform our colleges.
40. It's a good setting to help the students learn better by seeing the notes on the projector.
41. I prefer the ceiling mounted data projector.
42. The smart board makes it easier for the instructor to present material.
43. The use of the technology was good because the teacher explained well.
44. Very helpful.
45. I really like all the up to date technology that the STCC campus have. It will make learning interesting and easier to understand.
46. Very good technology, very helpful.
47. I think these new uses of technology really helps the students more on learning the requirements of the class.

Table 22: Student Comments Transcribed Verbatim (Continued)

48. Technology in STCC has improved and put us in the latest technology.
49. Technology helps a lot for teachers and students because sometimes students do not understand teacher's writing or the teacher does not understand student writing. By having all in nice letters would help.
50. It helped me a lot, since teacher don't spend time preparing the old and slow equipment, we are always ready to start.
51. Very good, very helpful.
52. It made assignments easier to follow, since everything was already prepared for use. We just had to copy everything down.
53. Many of these things helped a lot, we need more types of things that would help us understand our subjects in school more.
54. Everything OK, all items used in this class have helped me a lot to learn more.
55. It is an excellent source of learning to have this kind of technology.
56. I think that the use of technology is great for learning.
57. Very good technology, very helpful.
58. I feel the technology is improving and it does help.
59. The technology helps students understand the notes better.
60. It's better we can see everything more clear and with the regular markers we don't see well.
61. Mr. (Name) was very helpful by putting up the weather and some other web page that help us with the lesson. To understand supervision.
62. Even though we didn't use them they will help us in the future!
63. The use of the technology, if used, would have probably improved the learning that occurred in this classroom.
64. We need more technology because little technology and too many students.
65. Technology changes quickly and newer computers would help us understand what new software can do.
66. It's common sense that if you have classes in the high school there are not smart boards or other stuff.
67. Equipment not in classroom.
68. Equipment not in classroom.
69. Equipment not in classroom.
70. Equipment not in classroom.
71. Equipment not in classroom.
72. Equipment not in classroom.
73. Equipment not in classroom.
74. Equipment not in classroom.
75. Equipment not in classroom.
76. Equipment not in classroom.
77. Equipment not in classroom.
78. Equipment not in classroom.
79. Equipment not in classroom.
80. Equipment not in classroom.
81. Equipment not in classroom.
82. Equipment not in classroom.
83. Rio Grande school didn't have the technology, but still our professor explained it very well.
84. I took college success in a high school class room.(sad smiley face drawn)
85. We need more technology in our class room to better understand the instructor (had class at the Rio High School)
86. The class would have been better if we had some of the equipment we didn't have.
87. Equipment not in classroom. Need more courses here at the STARR County campus so that we don't have to go all the way to the McAllen campus.

Table 22: Student Comments Transcribed Verbatim (Continued)

88. Equipment not in classroom! I think that it is not fair for those of us that have classes in the Rio Grande High School! To lack the necessary equipment that could help us learn a lot more. We are paying the same amount of money and are not satisfied.
89. Equipment NOT in classroom. We weren't able to use the equipment because we don't have any of it at the high school. There should be someone in charge of making sure teachers can have a way of getting the equipment to the high school without having to cart it themselves.
90. Equipment NOT in classroom. I don't think it's fair to not be offered the same equipment as the rest of the STCC campuses.
91. Equipment NOT in classroom! Equipment NOT in class! I really did not enjoy the fact that we the students pay the same student fees and we don't get to use the equipment because it is NOT IN THE CLASSROOM. I am more than sure that there are people who can bring the equipment needed to the high school. And if you can't do that then don't even bother offering the classes because we can't interact with the technology we should be using.
92. Equipment NOT in classroom. I don't think it's fair for us, the people, that don't have classes in campus don't have the privilege like the ones that have classes in campus. What I mean is that sometimes we need to use equipment to work with and we are not provided with that.
93. Equipment not in classroom. We have all the technology, but we can't use it because we are at another campus(high school) so we really can't use most of that technology. I don't think it's fair because other students do use it and we can't. It is also not fair because the parking space is very far from the classes.
94. Equipment NOT in classroom. I think it is not fair to use because we pay to go to school and we can't even use the Technology that we have. I wish to have use of this equipment because it might of made a big difference in my learning.
95. Equipment not in classroom. I'm presently taking two classes out of the STCC campus and I think it will be easier if they will be provided at the campus, because there, we have all the technology available. I believe that the use of different equipment helps you a lot
96. Equipment not in classroom. I feel that I am being cheated out of my money, because the campus that I'm at does not have the equipment needed to successfully complete my course. I feel that other classes received more for their tuition
97. Equipment not accessible. EQUIPMENT NOT ACCESSIBLE TO US! Yes, I don't agree that we as students pay the same amount of tuition as the Pecan Campus and we don't even have the same equipment.
98. Equipment not in classroom. Next time I want to have classes in the STCC campus not on the high school because of the technology.
99. Equipment NOT in classroom. It is not fair that we are paying our tuition and we are not offered any of the equipment at our class.
100. Equipment not in classroom. I wish the equipment that is not in our room would be here. So I think it is better that we have the equipment with us at the high school because of the little room we have.
101. Equipment not in classroom. I just want to say that it is not fair for my college success class to be in the high school. The parking is so far away from the building, and most of the times the doors are locked and we have to find another way to go in. And walking more with all of our heavy books. We don't have a lot of the equipment you have. And that is not fair because we all pay the same.
102. Equipment not in classroom. STCC should have more equipment and more advanced technology for the success of the students.
103. Equipment not in classroom.
104. Equipment NOT in classroom. We need more equipment and our own classroom with its own equipment.
105. Equipment NOT in classroom. I think that they should put some of the tools of technology in the high school for us because it is very useful and we don't have it. I think that would help a lot.
106. Equipment not in class. The air system was always turned off.
107. Equipment not in classroom. Since we are not in the STCC campus, it was difficult for us to take advantage of much of the equipment that is provided.
108. Equipment not in classroom. Purchase enough material for us students to have a better education.
109. Equipment not in classroom. We should have more classes in STCC so that we don't have to use high schools where they don't have the technology we need.
110. Equipment not in classroom.

Table 22: Student Comments Transcribed Verbatim (Continued)

111. Equipment not in classroom.
112. Equipment not in classroom.
113. Equipment not in class. That it is very useful and helpful.
114. Equipment not in classroom. Our classes will be much easier if we would have the equipment necessary at the high school.
115. I think it's not fair for us not to have anything and the other students at college do.
116. Equipment not in classroom. It is fine with the equipment we have but if we had the other equipment that this paper says I think that we can do a little or perhaps a lot better.
117. Equipment not in classroom. Since we have our class at the Rio High school we don't have the things we really need for our presentations. For example: The computer to do powerpoint like there are at our campus at STCC. We really need computers for our progress and success.
118. We didn't use none because we didn't have it.
119. We never used any kind of equipment because in this class anything was needed and we don't have any either.
120. We never use the other programs because the classroom is at the high school.
121. I think that technology is not very necessary for this course.
122. Right now 12-11-01 the smart board is not working.
123. Technology is changing constantly, newer computer with new software will help us better when we are done with college.

BEST COPY AVAILABLE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement (OERI)
Educational Resources Information Center (ERIC)

NOTICE

REPRODUCTION BASIS

☑ This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

☐ This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").